Functional & Cosmetic Excellence: Revitalization of a Proven Treatment Philosophy

By Dr. Straty Righellis, USA & L. Douglas Knight, USA

Functional and Cosmetic Excellence (FACE Tx™) is an approach to orthodontic treatment that establishes measurable treatment goals for six elements that form the basis of comprehensive, interdisciplinary, high-quality orthodontic care:
- Functional occlusion
- TMJ health
- Facial balance
- Optimal dento-gingival esthetics (smile design)
- Periodontal health
- Stability

For each of these goals, the origination of the FACE Tx™ discipline has defined specific elements that create a framework for the systematic evaluation of the esthetic and functional needs of each patient and a method to assess treatment results. These treatment goals are supported by reputable studies published in well-respected, peer-reviewed journals. Sharing these goals and the means to achieve them with an interdisciplinary team—the orthodontist, the dentist and/or other specialists—provides you, the orthodontist, an opportunity to work with esteemed colleagues to create outstanding results for beauty, health and function.

Building successful practices is an important side benefit of this approach. Developing the skills required to manage and function within FACE Tx interdisciplinary treatment teams increases the complexity of cases one can treat. The collaborative interaction with experts in their respective fields (periodontists, prosthodontists, cosmetic and general dentists and surgeons), who ascribe to the same principles of tooth positioning and jaw function, creates a knowledge base to treat to predictable, on-time, optimal results while meeting and/or exceeding patients’ expectations. As a result, one’s referral network expands with resultant practice growth.

Worldwide Program of Instruction

FACE Tx offers one of the world’s only postgraduate interdisciplinary continuing education programs. Offered in numerous countries to university-trained orthodontists, it provides didactic instruction and hands-on experience. Through a series of 5 to 7 one-week sessions, a team of established educators and practitioners convey this unique curriculum. The associated FACE Tx fraternity incorporates a lifetime learning forum for thousands of doctors who have adopted FACE Tx principles to their practices.

The FACE Tx teaching staff builds on each participating clinician’s knowledge base. The full-time faculty—Dr. Jorge Ayala (Santiago, Chile), Jeffrey McGovern (New York, USA), Straty Righellis (California, USA), and César A. Vélez (Venezuela, USA)—will manage active private practices and have extensive educational and clinical experience. The teaching faculty comprises considerable years of skills and knowledge to formulate the FACE Tx approach to diagnosis, treatment planning, and execution.

Defining Functional Occlusion, Smile Esthetics and Facial Balance

A number of orthodontic disciplines specify functional occlusion as a primary treatment goal, but few articulate its measurement. For that matter, incorporate gnatho-mandibular and STO-based orthodontic and orthognathic systems that incorporate soft tissue. From this research and these investigational patients’ jaw movements and computer assisted treatment planning (VTO)

- Efficient and simple treatment mechanisms with self-ligating appliances
- Establishing one’s own interdisciplinary treatment team
- Treatment and practice management strategies and marketing techniques to enhance one’s interdisciplinary network, and
- Knowledge of the type patients one can treat successfully and language to use that will offer patients choices

The FACE Tx teaching faculty shares proven techniques about how to adapt course instruction to clinical practice. There are several keys to successful treatment outcomes. (See above.)

While functional occlusion serves as the foundation for the FACE Tx approach, the discipline further differentiates itself by integrating facial balance with dento-gingival esthetics for a comprehensive approach to diagnosis, treatment planning, and execution. Dr. Renato Cocconi and Dr. Micro Raffaini, have analyzed the standards for optimal facial balance and dento-gingival esthetics and have quantified the relationship of the inclination of the upper incisors with the alar base and the pterial of the nose. These elements are important diagnostic findings for the development of specific treatment goals and metrics to assess the esthetic quality of treatment results. Dr. Jorge Ayala has quantified the range of optimal facial balancing elements of various ethnicities, which is essential to strengthening our ability to apply the highest standards of care across various cultures. From this data, he developed the first VTO and STO-based orthodontic and orthognathic surgery treatment planning systems that incorporate soft tissue. From this research and those practicing orthodontists, along with the other clinicians in the group, comes a refreshing approach to lifelong learning that is not only didactic, but clinically realistic. It can be readily applied to one’s day-to-day practice.

What the FACE Tx Course Teaches

During the comprehensive one-to-two-year FACE Tx program instruction, participants develop a solid foundation of knowledge and skills in the following areas that is clinically practical:
- In-depth evaluation of joint function and occlusion
- Mounting models with the most up-to-date instrumentation in simulating patients’ jaw movements
- Latest analytical techniques to assess facial balance and esthetic smile design
- Multidisciplinary case diagnosis and computer assisted treatment planning (VTO)
- Efficient and simple treatment mechanisms with self-ligating appliances
- Establishing one’s own interdisciplinary treatment team
- Treatment and practice management strategies and marketing techniques to enhance one’s interdisciplinary network, and
- Knowledge of the type patients one can treat successfully and language to use that will offer patients choices

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(See above.)

Figure 1a-d. The elements of a mutually protected occlusion: (a) optimal overjet and overbite in centric occlusion; (b) right working excursion; (c) right balancing excursion; (d) right protrusive excursion

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Avoiding common problems in tooth extractions

By Dr Kamis Gaballah, UAE

The last two decades have seen significant advances in restorative techniques and materials for dentistry. The latter, along with community-based preventive measures that aim to reduce the incidence of caries, have resulted in many patients experiencing minimal cooperation, fostering good hygiene and result in less need for continued improvement in practice efficiency. Finishing on time with predictable outcomes allows one to provide optimal results and meet or exceed patients’ expectations.

1. Utilize skillfully engineered and meticulously manufactured orthodontic appliances and develop efficient mechanical systems—from bracket systems and develop efficient mechanical systems—from bracket to several factors, including the late presentation of patients with advanced dental disease, the presence of symptomatic impacted teeth, such as third molars, and the need to extract teeth for orthodontic or orthognathic treatment.

The extraction of teeth varies greatly based on the type of patient who is undergoing the procedure. For example, elderly patients with significant co-morbidities and on a complex combination of medications as compared with young healthy individuals render the procedure complicated and require much more preparation with modifications during and after patient management. Additionally, extractions can range from a single, fully erupted tooth with favourable morphology to multiple misaligned, impacted teeth or teeth with challenging morphology. Local anatomy, such as tooth proximity to the nerve, maxillary sinus and tuberosity, also plays a significant role. These variations usually dictate who is to perform the extraction, as many general practitioners deal with less complicated cases of dental extraction in individuals regarded as healthy patients and may not feel comfortable operating on medically complex patients.

Complex extraction cases have been linked to a higher rate of postoperative complications; therefore, a cautious and systematic approach should be adopted that includes a detailed preoperative assessment to predict the potential difficulties that might arise during extraction. The documentation of all complicating risk factors along with their potential implications is crucial and should be included in the informed consent. In the following article, extensive tips will be provided that are not usually included in traditional textbooks or lecture notes to help general practitioners to perform safer extractions.

Conclusion

The FACE Tx philosophy incorporates comprehensive diagnosis and treatment planning, efficient treatment mechanics and the latest orthodontic advancements for treating each patient’s dental, facial and gnathological systems. Its aim is a collaboration between the goals of orthodontics and comprehensive dentistry that incorporates interdisciplinary coordination. This approach expands the network of professionals who share principles of tooth positioning and jaw function. Such collaboration greatly strengthens one’s referral base as these colleagues understand the value of the orthodontic specialty and the specific value of FACE Tx. It promotes the viability of the orthodontic specialty through the development and maintenance of viable practices that combine function with beauty. The ultimate aim of FACE Tx is to foster excellence in orthodontic patient care and treatment through education, research and collaboration.

Table 1

<table>
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<th>Risk factors for IDN injury during LM3 extraction</th>
<th>Radiographic signs of increased risk of IDN injury</th>
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<tr>
<td>Overall risk factors for IDN injury</td>
<td>Full bony impactions</td>
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<td></td>
<td>Apices of the LM3 located inferior to the lower border of the IDC</td>
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<td>Horizontal impactions</td>
<td>Darkening of the root</td>
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<tr>
<td>Use of burs for extraction</td>
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<td>Radiographic risk markers</td>
<td>Interruption and loss of the white line representing the IDC</td>
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<td>Clinical observation of the bundle during surgery</td>
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<tr>
<td>Excessive bleeding into the socket during surgery</td>
<td>Abrupt narrowing of one or both of the white lines</td>
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</table>

Patient’s age Representing the IDC most of dentists and surgeons

Table 2

Complex extraction cases have been linked to a higher rate of postoperative complications; therefore, a cautious and systematic approach should be adopted that includes a detailed preoperative assessment to predict the potential difficulties that might arise during extraction. The documentation of all complicating factors along with their potential implications is crucial and should be included in the informed consent. In the following article, extensive tips will be provided that are not usually included in traditional textbooks or lecture notes to help general practitioners to perform safer extractions.

During clinical examination, it has been proven useful to observe the patient’s build. Tall and muscular individuals tend to have a long ramus with a higher mandibular foramen, and this increases the possibility of failure of the inferior dental nerve block procedure if the former is not taken into account when determining the height of the injection site. This can be added by tracing the inferior dental canal (IDC) to the mandibular foramen in the preoperative panoramic radiograph. The teeth of such individuals may also have...
The indications for the extraction of impacted lower third molars (LM3) have been the subject of an ongoing debate. Surgical procedures for the extraction of unerupted LM3 are associated with a high risk of injury to the inferior alveolar nerve, which may also be the subject of a future implant replacement if necessary. In many scenarios, the extraction of the LM3 is comparable to that observed when using dental forceps. Fracture of the alveolar bone, and thus sectioning of the bone, can be responsible for the extraction of the tooth. Changes in the extraction socket may take place in the slow remodelling of the bone formed to fill in the extraction socket, owing to lack of functional stimulation. Therefore, it is crucial that the operator achieve optimal stabilization through light packing of the alveolar ridge and hence greater bone fill up the extraction socket.

The surgery should be planned according to the information obtained from the preoperative assessment process. The procedure itself should aim to minimize the manipulation around the IDC, both during surgery and post-operatively. The effective strategies that may avoid or minimize the risk of injury to the IDC are collectively categorized into two main sets. The first is the preoperative workup, which should include critical assessment of the need to extract the third molar, clinical examination and radiographic evaluation. The second is intra-operative measures, including proper selection of local anaesthetic agent, the injection technique, modification of the surgical procedure and measures to reduce the degree of potential injury to the nerve.

Most literature published in the last decade has given sufficient evidence to suggest a significant risk of damage to both the inferior dental and the lingual nerve owing to the nerve block procedure. This may be related to the potential pharmacological properties of the agent itself or the injection technique. Studies have shown that the lingual nerve is affected approximately twice as often as the IDC, and one reason for this may be the fascial patterns of the region where the injection is given. It also appears that about half of patients feel an electric shock sensation during injection, which should be considered with caution. The presence of poorly remodelled alveolar bone may complicate the stability and function of the future implant. Furthermore, studies show that the stripping and elevation of mucoperiosteal tissue produc
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